

## **REMARKS/ARGUMENTS**

### **I. General Remarks.**

At the time of the Office Action, Claims 36-52 were pending.

Applicants respectfully request reconsideration in light of the remarks contained herein. All the remarks are made in a good faith effort to advance the prosecution on the merits of this case. Applicants thank the Examiner for his careful consideration of this application, including the references Applicants have previously submitted.

### **II. Remarks Regarding the Rejections of Under 35 U.S.C. § 102(b) and § 103(a)**

#### **A. Rejections over *Gupta***

The Examiner has rejected claims 36-52 under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over U.S. Patent No. 5,305,832 issued to Gupta, *et al.* (hereinafter "*Gupta*").

With respect to this rejection, the Examiner states:

Gupta claims (#1, 2) fracturing subterranean formations with an aqueous fluid of gelling agent (eg hydroxypropylguar) and crosslinking agent at a pH of 10-12. According to applicant (paragraph 6) this pH causes the insoluble residue to dissolve. Presumably, Gupta would inherently be devoid of insoluble residues also. Note that applicant does not consider crosslinkers to be insoluble gelling agents (paragraph 17 of spec). The amount of gelling agent is 10-100 pounds per thousand gallons of water (col 3 line 58). In regards to claim 45's addition of water in two separate steps, any number of water additions (as long as the total water is the same) would result in the same final product. Any mixing order or partial additions in the mixing sequence would have been *prima facie* obvious.

(Office Action, pages 2 -3.) Applicants respectfully disagree. Applicants submit that the Examiner has not shown that *Gupta* discloses every element, either explicitly or inherently, or suggests every element as recited in claims 36-52 as required to anticipate the claims under 35 U.S.C. § 102(b), or to obviate the claims under 35 U.S.C. § 103(a). MPEP § 2131, 2142.

With respect to independent claim 36, Applicants respectfully submit that *Gupta* does not explicitly disclose or suggest the use of a viscous gelled treating fluid that is "substantially devoid of an insoluble gelling agent residue and remains substantially devoid of the insoluble gelling agent residue while in a subterranean zone." With respect to independent claim 45, Applicants respectfully submit that *Gupta* does not disclose or suggest "allowing the

base to dissolve substantially all of the water insoluble residue.” Nor does *Gupta* inherently disclose these missing recitations.

In order to inherently disclose an element in a claim, “the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art,” and that it would be so recognized by persons of ordinary skill. *Id.* at § 2112. “Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.” *Id.*

The Examiner has stated that *Gupta* “raise[s] the pH of [the] solutions as does Applicant. This is the only step applicant requires to dissolve the insolubles. Inherently, the reference must be dissolving the insolubles because it is the same process step that applicant teaches.” Applicants disagree with this statement and submit that *Gupta* does not disclose the same steps as Applicants. As previously stated, a gelling agent residue is produced upon the hydration of certain gelling agents. *See* Specification at ¶ [0004]. Thus, after certain gelling agents are already hydrated, and therefore have produced a residue, Applicants disclose that a base may then be added to the treatment fluid and allowed to dissolve the gelling agent residue, such that the treatment fluid is substantially devoid of a gelling agent residue and will remain substantially devoid of such residue. *See* Specification at ¶¶ [0006] and [0022]. Furthermore, Applicants disclose that the treatment fluid must remain at this higher pH for a period of time so that the gelling agent residue may be dissolved. Specification at ¶ [0022]. One of ordinary skill in the art would recognize that the dissolution of a gelling agent residue is not instantaneous, but rather is dissolved over a period of time, which may generally be a period of at least approximately 24 hours.

*Gupta* discloses that “a pH adjusting material can be added to the aqueous fluid before, after, or during the addition of the gelling agent to the aqueous fluid.” *Gupta*, col. 3, lines 23-25. The mere fact that *Gupta* discloses that a base may be added to the aqueous fluid after the addition of the gelling agent is not sufficient to establish that the methods disclosed therein necessarily allow “the base to dissolve substantially all of the water insoluble residue” or involve the use of a viscous gelled treating fluid that is “substantially devoid of an insoluble gelling agent residue and remains substantially devoid of the insoluble gelling agent residue while in a subterranean zone.”

*Gupta* does not disclose that the base is added to the fluid and given a sufficient amount of time to dissolve any residue that is present. The Office Action states that:

Applicant argues that Gupta, Briscoe, and Brannon do not necessarily wait sufficient time for the residues to dissolve because dissolution is not instantaneous. This argument is totally unsupported. Applicants specification never indicates there is any significant time delay before dissolution takes place. Applicant fails to even allege what length of time would be required for dissolution nor speculates on the length of time that would elapse for the reference compositions prior to introduction into the subterranean zone. The references would not be expected to send their compositions into the subterranean zone mere seconds after mixing. Mixing, storage and transportation to the entrance all will take a certain amount of time.”

(Office Action, pages 4-5). Applicants submit that their specification states that “[t]he gelled water remains at the high pH while being stored during which gelling agent residue in the gelled water is dissolved.” Specification at ¶ [0022]. As previously stated, one of ordinary skill in the art would recognize that the dissolution of a gelling agent residue is not instantaneous, but rather is dissolved over a period of at least approximately 24 hours. It is clear that *Gupta* does not contemplate allowing the fluids disclosed therein to remain at a high pH for at least this amount of time, as the Examples only measure viscosity up to the point of ten hours. *See Gupta*, Tables I-IV. Furthermore, *Gupta* recognizes that a residue would in fact be present by stating that the methods disclosed allow for a “lower base gel loading” which results in “lower residues and consequently less damage to the formation and proppant pack.” *Gupta*, col. 2, line 68-col. 3, line 4; *see also* col. 2, lines 40-44. Thus, *Gupta* does not inherently disclose all the elements of Applicants’ claims 36 and 45.

Therefore, Applicants respectfully assert that *Gupta* does not disclose each element of independent claims 36 and 45, and thus those claims are patentable over *Gupta*. Furthermore, since “a claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers,” and since claims 37-44 and 46-52 depend, either directly or indirectly, from claims 36 or 45, these dependent claims are allowable for at least the same reasons. *See* 35 U.S.C. § 112 ¶ 4 (2004). Accordingly, Applicants respectfully request the withdrawal of these rejections.

**B. Rejections over *Briscoe***

The Examiner has rejected claims 36-52 under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over U.S. Patent No. 4,336,145 issued to *Briscoe* (hereinafter "*Briscoe*").

With respect to this rejection, the Examiner states:

*Briscoe* teaches aqueous well treating fluids (col. 1 line 8). *Briscoe* exemplifies liquid gel concentrates (table I) of hydroxypropylguar, water, NaOH and optionally inhibitor. The pH of the mixture is 9-14 (col 10 line 27). This envelops applicant's preferred pH range of "about 10-13" (claim 34). According to applicant (paragraph 6) this pH causes the insoluble residues to dissolve. Presumably, *Briscoe* would inherently be devoid of insoluble residues also. The concentrate can be diluted at a 1:15 ratio with additional water (col 8 line 15). In order to reverse the inhibition, acid can be added to lower the pH to 5-9 (col 7 line 40). The pH adjustment is not always necessary (col 8 line 8).

(Office Action, page 3.) Applicants submit that the Examiner has not shown that *Briscoe* discloses or suggests every element as recited in claims 36-52 as required to anticipate the claims under 35 U.S.C. § 102(b), or to obviate the claims under 35 U.S.C. § 103(a). MPEP § 2131, 2142.

With respect to independent claim 36, Applicants respectfully submit that *Briscoe* does not explicitly disclose or suggest the use of a viscous gelled treating fluid that is "substantially devoid of an insoluble gelling agent residue and remains substantially devoid of the insoluble gelling agent residue while in a subterranean zone." With respect to independent claim 45, Applicants respectfully submit that *Briscoe* does not disclose or suggest "allowing the base to dissolve substantially all of the water insoluble residue." Nor does *Briscoe* inherently disclose these missing recitations.

As previously stated, a gelling agent residue is produced upon the hydration of certain gelling agents. See Specification at ¶ [0004]. Thus, after certain gelling agents are already hydrated, and therefore have produced a residue, Applicants disclose that a base may then be added to the treatment fluid and allowed to dissolve the gelling agent residue, such that the treatment fluid is substantially devoid of a gelling agent residue and will remain substantially devoid of such residue. See Specification at ¶¶ [0006] and [0022]. In contrast, *Briscoe* discloses adding a base and a hydration inhibitor to a gelling agent to produce "an aqueous hydration

inhibited concentrate.” *Briscoe*, col. 4, lines 40-49. Upon reversal of the hydration inhibition of the concentrates disclosed in *Briscoe*, by adding a base and additional water, a water insoluble residue would then form, resulting in a treatment fluid that would not be substantially devoid of a water insoluble gelling agent residue. *See Briscoe*, col. 7, lines 29-57.

The fact that *Briscoe* discloses that a base may be added to a treatment fluid upon reversal of the hydration inhibition of the concentrate is not sufficient to establish that the methods disclosed therein necessarily allow “the base to dissolve substantially all of the water insoluble residue” or involve the use of a viscous gelled treating fluid that is “substantially devoid of an insoluble gelling agent residue and remains substantially devoid of the insoluble gelling agent residue while in a subterranean zone.” As previously indicated, the dissolution of the residue is not usually instantaneous, but rather it is generally dissolved over a period of time. *Briscoe* does not disclose that the base is added to the fluid and given a sufficient amount of time to dissolve any residue that is present, and thus, even if that result may occur in *Briscoe*, it will not necessarily occur. Thus, *Briscoe* does not inherently disclose all the elements of Applicants’ claims 36 and 45.

Therefore, Applicants respectfully assert that *Briscoe* does not disclose each element of independent claims 36 and 45, and thus those claims are patentable over *Briscoe*. Furthermore, since “a claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers,” and since claims 37-44 and 46-52 depend, either directly or indirectly, from claims 36 or 45, these dependent claims are allowable for at least the same reasons. *See* 35 U.S.C. § 112 ¶ 4 (2004). Accordingly, Applicants respectfully request the withdrawal of these rejections.

### **C. Rejections over *Brannon***

The Examiner has rejected claims 36-52 under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over U.S. Patent No. 5,547,026 issued to Brannon (hereinafter “*Brannon*”).

With respect to this rejection, the Examiner states:

Brannon teaches guar based gels (abstract) for use in subterranean formations (col 1 line 7). Brannon adds 20 lbs + 100 lbs of polymer and a pH adjuster such as ammonium hydroxide to 1000 gallons of water (col 5 line 18-25). The pH is 10-11 (col 5 line 26). The pH and polymer concentration correspond to applicant’s preferred amounts (eg claim 40) and therefore it is presumed that

no gelling agent residue remains. Brannon teaches the amount of gelling agent is initially 0-100 pounds per thousand gallons (col 4 line 37) with a later addition of 10-300 pounds more (col 4 line 51). Note that applicant (paragraph 4) considers “insoluble residues” to be proteins, cellulose and fibers - not the guar itself. Therefore, Brannon’s late added unhydrated guar cannot be considered an “insoluble residue” based on applicant’s definitions. Any proteins, cellulose, fiber contained within the late added unhydrated guar, will immediately dissolve upon hydration due to the pH.

(Office Action, pages 3-4.) Applicants respectfully disagree. Applicants submit that the Examiner has not shown that *Brannon* discloses or suggests every element as recited in claims 36-52 as required to anticipate the claims under 35 U.S.C. § 102(b), or to obviate the claims under 35 U.S.C. § 103(a). MPEP § 2131, 2142.

In particular, with respect to independent claim 36, Applicants respectfully submit that *Brannon* does not explicitly disclose or suggest the use of a viscous gelled treating fluid that is “substantially devoid of an insoluble gelling agent residue and remains substantially devoid of the insoluble gelling agent residue while in a subterranean zone.” Nor does *Brannon* inherently disclose this missing recitation. Rather, *Brannon* discloses a blocking gel that would have a gelling agent residue present when the gel is placed into a subterranean zone, which may later be degraded by an enzyme breaker. *Brannon*, col. 5, line 57 - col. 6, line 6.

Moreover, with respect to independent claim 45, Applicants respectfully assert that *Brannon* does not disclose or suggest “allowing the base to dissolve substantially all of the water insoluble residue.” Rather, *Brannon* discloses that “[i]t is generally desirable to raise the pH of the fluid above about 9.0, most preferably in the range of from about 10.0-11.0 to limit the hydration of the additional polymer.” *Brannon*, col. 5, lines 23-27 (emphasis added). Thus, *Brannon* does not disclose or suggest all elements of Applicants claim 45.

Therefore, Applicants respectfully assert that *Brannon* does not disclose each element of independent claims 36 and 45, and thus those claims are patentable over *Brannon*. Furthermore, since “a claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers,” and since claims 37-44 and 46-52 depend, either directly or indirectly, from claims 36 or 45, these dependent claims are allowable for at least the same reasons. See 35 U.S.C. § 112 ¶ 4 (2004). Accordingly, Applicants respectfully request the withdrawal of these rejections.

**D. Rejections over *Yeh***

The Examiner has rejected claims 36-52 under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over U.S. Patent No. 5,536,825 issued to Yeh, *et al.* (hereinafter "*Yeh*").

With respect to this rejection, the Examiner states:

Yeh produced polygalactomannan which transmits light (abstract). The light transmission is believed to be due to the low insolubles (col 1 line 45; col 2 line 67; col 6 line 34). Yeh's method involves treating a material such as hydroxypropylguar (col 5 line 42) with a solution of NaOH (col 4 line 26-41). Yeh then washes (col 4 line 42) and dries (col 5 line 3) the polygalactomannan. The resulting material will form stable aqueous solutions (col 6 line 45) and is useful in oil recovery (col 6 line 56). Yeh's "extra" washing and drying steps are not excluded by applicant's claims.

(Office Action, page 4.) Applicants respectfully disagree. Applicants submit that the Examiner has not shown that *Yeh* discloses or suggests every element as recited in claims 36-52 as required to anticipate the claims under 35 U.S.C. § 102(b), or to obviate the claims under 35 U.S.C. § 103(a). MPEP § 2131, 2142.

In particular, with respect to independent claim 36, Applicants respectfully submit that *Yeh* does not explicitly disclose or suggest the use of a viscous gelled treating fluid that is "substantially devoid of an insoluble gelling agent residue and remains substantially devoid of the insoluble gelling agent residue while in a subterranean zone." With respect to independent claim 45, Applicants respectfully submit that *Yeh* does not disclose or suggest "allowing the base to dissolve substantially all of the water insoluble residue."

Applicants disclose that after certain gelling agents are already hydrated, and therefore have produced a residue, a base is then added to the treatment fluid and allowed to dissolve the gelling agent residue, such that the treatment fluid is substantially devoid of a gelling agent residue and will remain substantially devoid of such residue. *See* Specification at ¶¶ [0006] and [0022]. The Examiner states that:

Applicant argues Yeh adds basic solution to unhydrated guar rather than to the viscous aqueous guar. This distinction is trivial. In effect, Yeh is performing the hydrating step and basic treating step all at one. Applicant gives no explanation why Yeh's process results in a composition any different from applicant's composition."

(Office Action, page 5). Applicants disagree and submit that the distinction of adding a base to unhydrated guar versus hydrated guar is quite significant.

A base is a hydration inhibitor. Thus, if a base is added to guar and absorbed by the guar prior to its hydration, then the guar will not hydrate until the inhibition effects are no longer present. Once the guar has absorbed the base and is subsequently hydrated, a gelling agent residue will be produced. *Yeh* does not disclose adding a base to dissolve this gelling agent residue. Rather, *Yeh* discloses that a basic solution may be added to unhydrated guar splits and then the splits may be washed with water after the base solution is completely absorbed by the splits. *Yeh*, col. 4, lines 26-50 (emphasis added). Thus, *Yeh* does not disclose or suggest all elements of Applicants independent claims.

Therefore, Applicants respectfully assert that *Yeh* does not disclose each element of independent claims 36 and 45, and thus those claims are patentable over *Yeh*. Furthermore, since “a claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers,” and since claims 37-44 and 46-52 depend, either directly or indirectly, from claims 36 or 45, these dependent claims are allowable for at least the same reasons. See 35 U.S.C. § 112 ¶ 4 (2004). Accordingly, Applicants respectfully request the withdrawal of these rejections.

#### **IV. No Waiver**

All of Applicants’ arguments and amendments are without prejudice or disclaimer. Additionally, Applicants have merely discussed example distinctions from the cited reference. Other distinctions may exist, and Applicants reserve the right to discuss these additional distinctions in a later Response or on Appeal, if appropriate. By not responding to additional statements made by the Examiner, Applicants do not acquiesce to the Examiner’s additional statements, such as, for example, any statements relating to what would be obvious to a person of ordinary skill in the art. The example distinctions discussed by Applicants are sufficient to overcome the rejections in this Office Action.

#### **SUMMARY**

In light of the above remarks, Applicants respectfully submit that the application is now in condition for allowance, and earnestly solicit timely notice of the same. Should the Examiner have any questions, comments or suggestions in furtherance of the prosecution of this



application, the Examiner is invited to contact the attorney of record by telephone, facsimile, or electronic mail.

Applicants believe that no fees are due in association with this filing. However, should the Commissioner deem that any fees are due, including any fees for extensions of time, Applicants respectfully request that the Commissioner accept this as a Petition Therefor, and direct that any additional fees be charged to Baker Botts L.L.P. Deposit Account No. 02-0383, Order Number 063718.0992.

Respectfully submitted,

A handwritten signature in black ink that reads "Larissa Piccardo". The signature is written in a cursive, flowing style. The first name "Larissa" is written in a larger, more prominent script, and "Piccardo" follows in a similar but slightly smaller script. The signature is positioned above a horizontal line.

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